

KEY TRENDS IN THE SIZE AND COMPOSITION OF OTC DERIVATIVES MARKETS IN THE FIRST HALF OF 2023

The latest data on over-the-counter (OTC) derivatives from the Bank for International Settlements (BIS) shows a rise in notional outstanding, gross market value and gross credit exposure of OTC derivatives during the first half of 2023 compared to the first half of 2022. The upswing was driven by growth in interest rate and foreign exchange (FX) derivatives amid rising interest rates for major currencies.

Global OTC derivatives notional outstanding increased by 13.1% at mid-year 2023 compared to the middle of 2022. The gross market value of OTC derivatives rose by 8.1% and gross credit exposure – gross market value after netting – grew by 10.5% over the same period.

Total mark-to-market exposure was reduced by 81.6% as a result of close-out netting. Credit exposure was further reduced by the collateral market participants posted for cleared and non-cleared transactions.

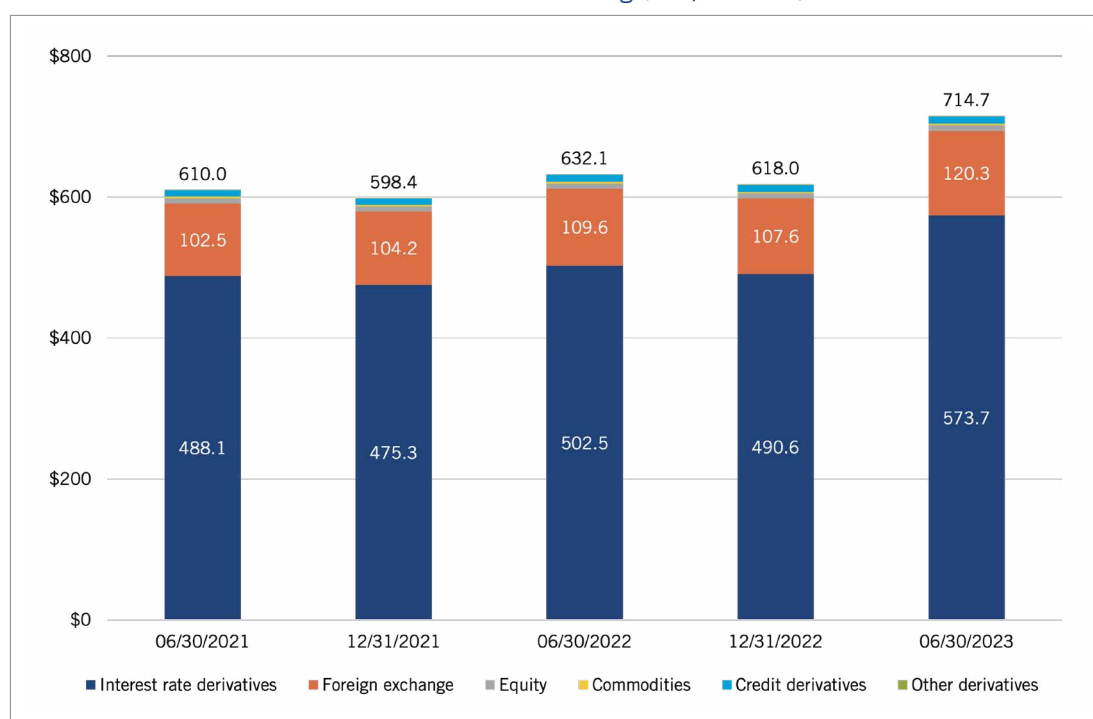
Clearing rates for both interest rate derivatives (IRD) and credit default swaps (CDS) increased over the period. Firms posted \$389.0 billion of initial margin (IM) for cleared IRD and CDS transactions at all major central counterparties (CCPs) at mid-year 2023 versus \$359.7 billion a year earlier.

KEY TRENDS

Global OTC derivatives notional outstanding totaled \$714.7 trillion at the end of June 2023, 13.1% higher than mid-year 2022 and 15.7% higher compared to year-end 2022¹ (see Chart 1). Some of this reflects a seasonal pattern, in which notional outstanding tends to increase in the first half of the year and drop in the second half.

IRD notional outstanding rose by 14.2% to \$573.7 trillion at mid-year 2023 compared to \$502.5 trillion at the middle of 2022. FX derivatives notional outstanding grew by 9.7% to \$120.3 trillion from \$109.6 over the same period. Credit, equity and commodity derivatives notional outstanding totaled \$10.1 trillion, \$7.8 trillion and \$2.2 trillion, respectively.

Chart 1: Global OTC Derivatives Notional Outstanding (US\$ trillions)



Source: BIS OTC Derivatives Statistics

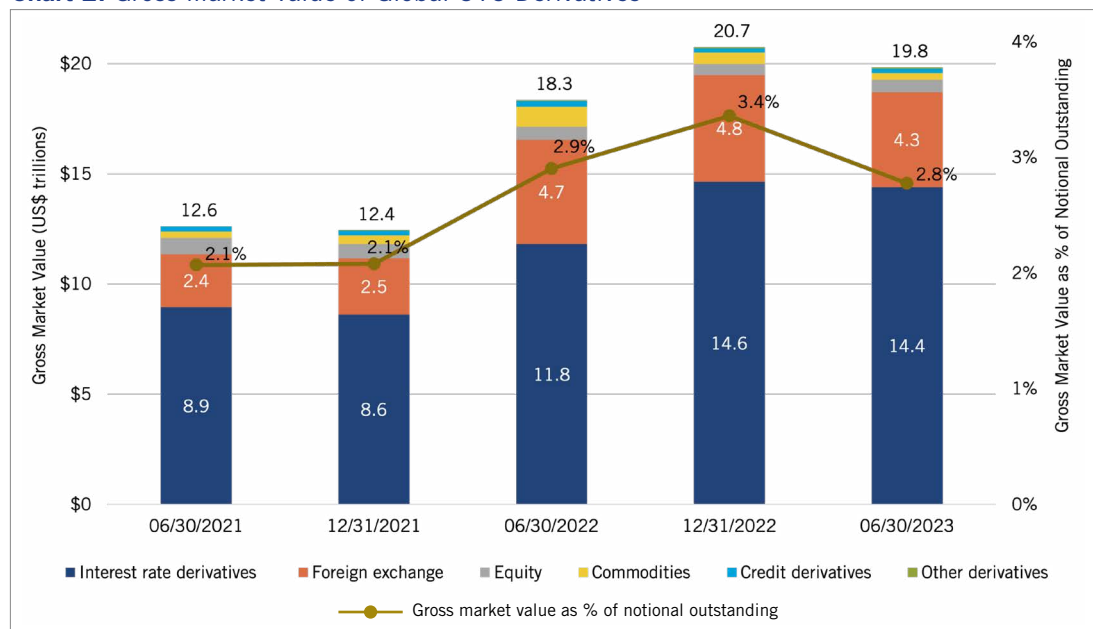
The gross market value of OTC derivatives grew by 8.1% to \$19.8 trillion as of end-June 2023 compared to the middle of 2022². This was driven by higher interest rate derivatives market values due to increases in interest rates for key currencies. Gross market value equaled 2.8% of notional outstanding at mid-year 2023 versus 2.9% a year earlier (see Chart 2).

IRD gross market value increased by 21.9% to \$14.4 trillion at mid-year 2023 versus \$11.8 trillion at mid-year 2022. FX derivatives gross market value fell by 8.8% to \$4.3 trillion from \$4.7 trillion over the same period.

¹ BIS OTC Derivatives Statistics https://data.bis.org/topics/OTC_DER/tables-and-dashboards

² Gross market value is the sum of the absolute values of all outstanding derivatives contracts with either positive or negative replacement values evaluated at market prices prevailing on the reporting date. See [BIS Glossary](#)

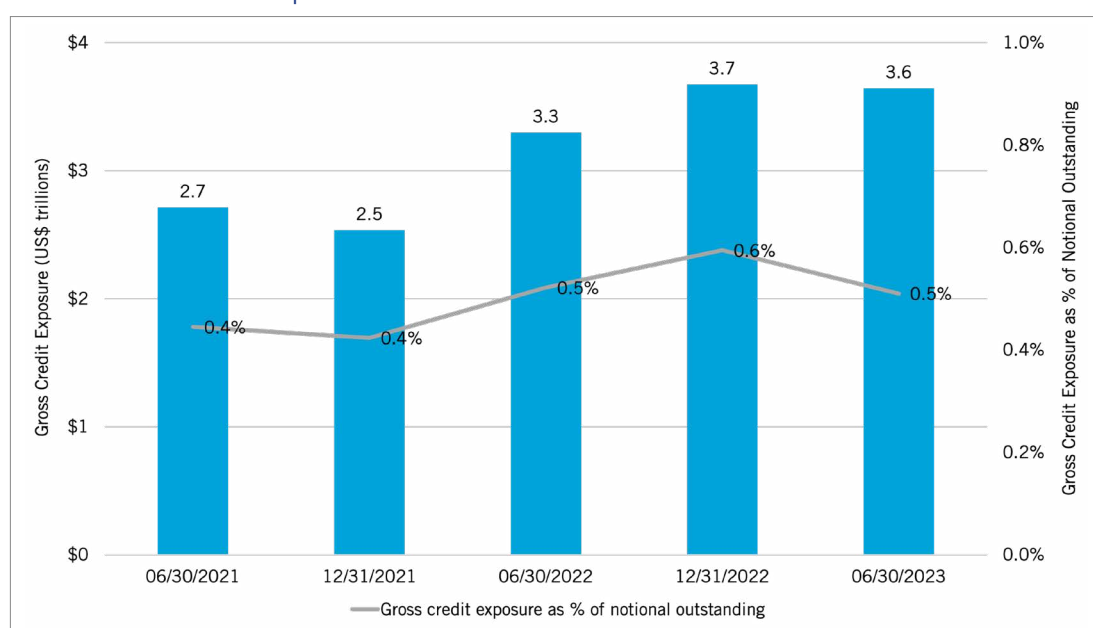
Chart 2: Gross Market Value of Global OTC Derivatives



Source: BIS OTC Derivatives Statistics

Gross credit exposure of OTC derivatives, which is a more accurate measure of counterparty credit risk, grew by 10.5% to \$3.6 million at end-June 2023 compared to a year earlier (see Chart 3), equating to 0.5% of notional outstanding³.

Chart 3: Gross Credit Exposure of Global OTC Derivatives

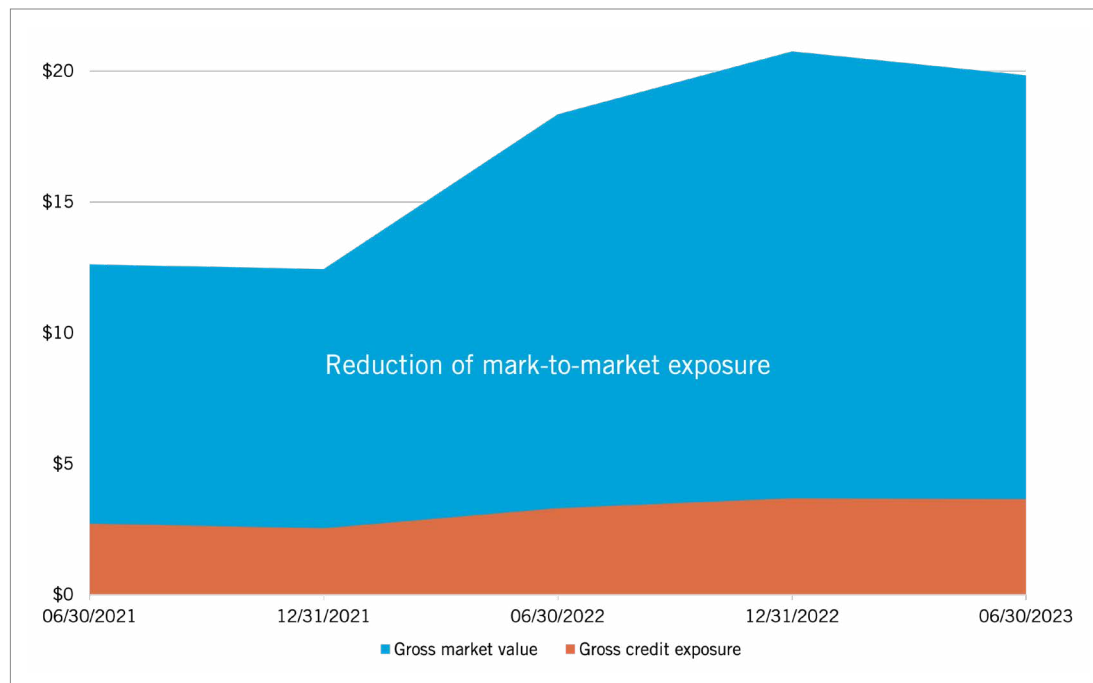


Source: BIS OTC Derivatives Statistics

Market participants reduced their mark-to-market exposure by 81.6% as a result of close-out netting (see Chart 4). This credit exposure is further reduced by the collateral posted for cleared and non-cleared transactions.

³ Gross credit exposure adjusts gross market value for legally enforceable netting agreements, but not for collateral. See [BIS Glossary](#)

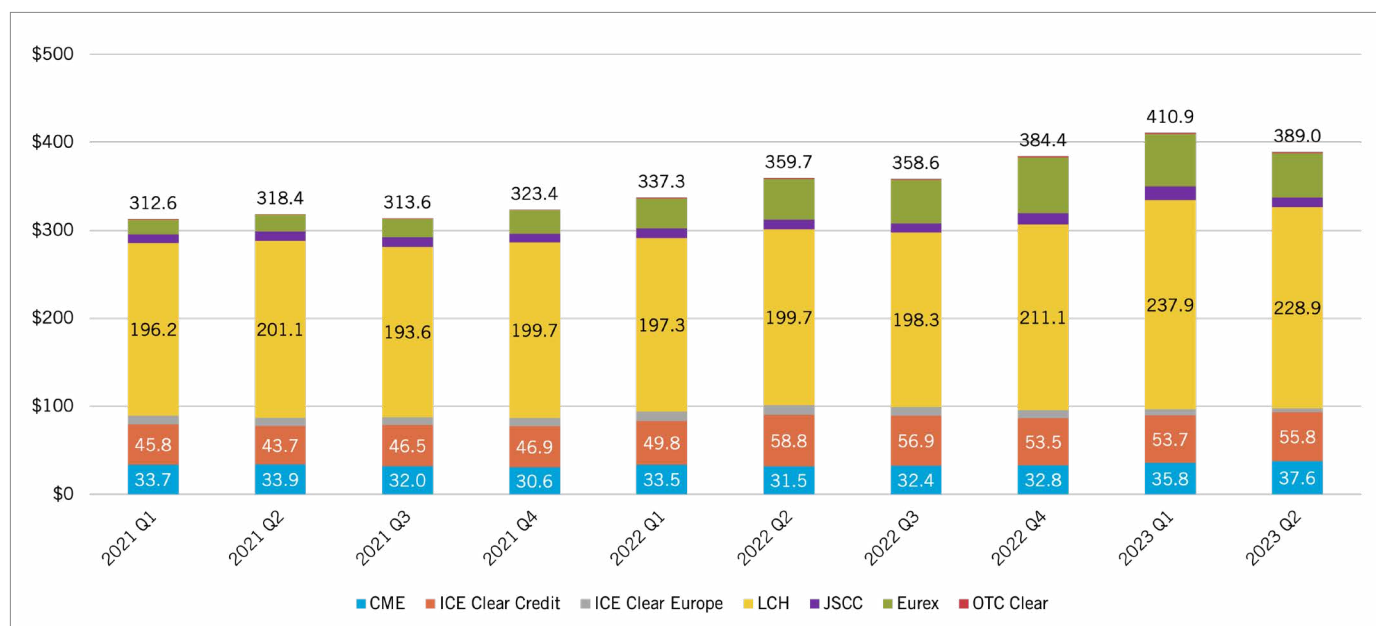
Chart 4: Reduction of Mark-to-market Exposure (US\$ trillions)



Source: BIS OTC Derivatives Statistics

Firms delivered \$389.0 billion of IM for cleared derivatives (including IRD and CDS) at all major CCPs in the second quarter of 2023^{4,5}. This represents an 8.2% increase versus \$359.7 billion in the second quarter of 2022 (see Chart 5).

Chart 5: IM Posted for Cleared IRD and CDS (US\$ billions)



Source: CCP disclosures

⁴ All numbers are converted to US dollars based on the exchange rates at the end of each quarter: <https://www.x-rates.com/historical>

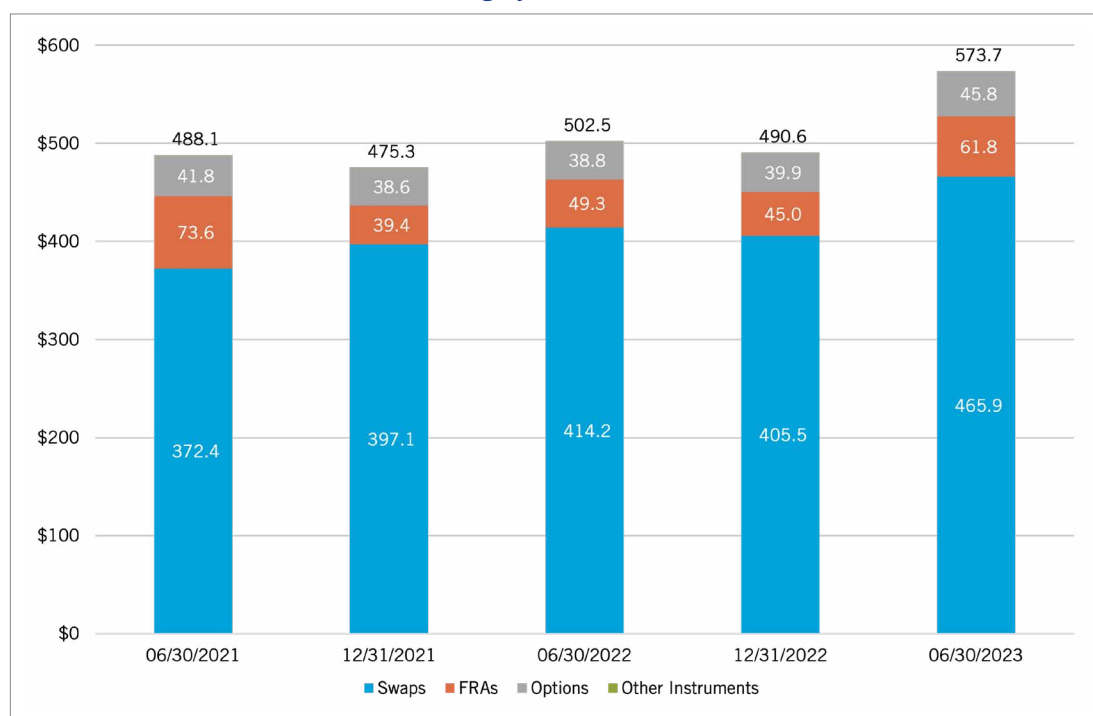
⁵ LCH includes LCH Ltd and LCH SA

INTEREST RATE DERIVATIVES

IRD notional outstanding totaled \$573.7 trillion at the middle of 2023, a rise of 14.2% versus mid-year 2022 and up 16.9% compared to the end of 2022 (see Chart 1). IRD notional outstanding represented 80.3% of global OTC derivatives notional outstanding as of end-June 2023.

Interest rate swaps (IRS) notional outstanding increased by 12.5% to \$465.9 trillion and accounted for 81.2% of total IRD notional outstanding. Forward rate agreement (FRA) notional outstanding rose by 25.4% at mid-year 2023 compared to a year earlier. FRA and options notional outstanding was \$61.8 trillion and \$45.8 trillion, respectively (see Chart 6).

Chart 6: Global IRD Notional Outstanding by Product (US\$ trillions)



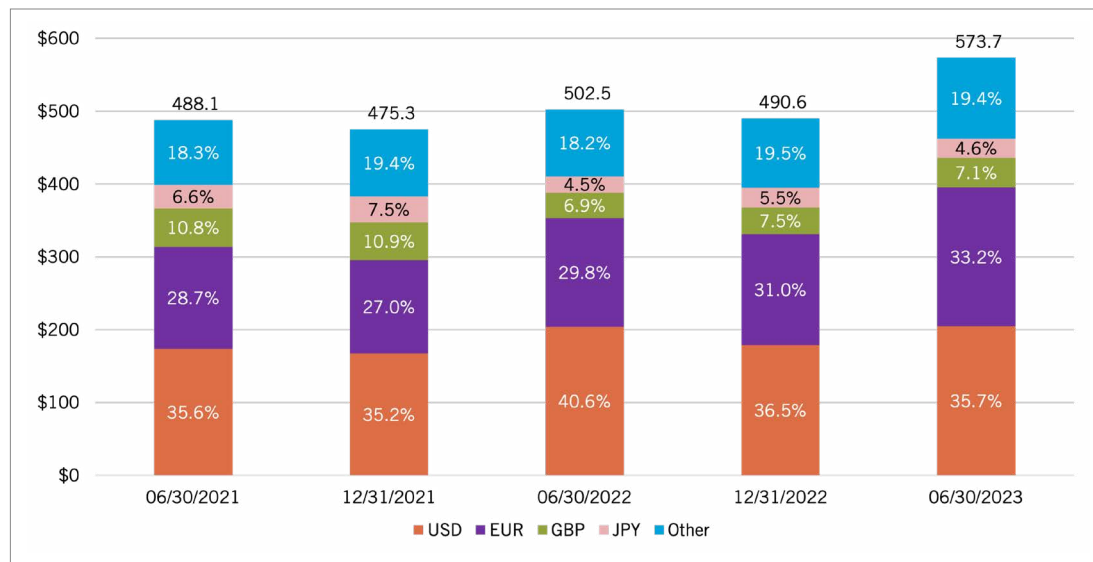
Source: BIS OTC Derivatives Statistics

US-dollar-denominated IRD notional outstanding totaled \$204.8 trillion at mid-year 2023, up by 0.4% versus mid-year 2022. It accounted for 35.7% of total IRD notional outstanding compared to 40.6% as of end-June 2022 (see Chart 7).

Euro-denominated IRD notional outstanding totaled \$190.6 trillion at mid-year 2023, up by 27.4% versus the middle of 2022. It comprised 33.2% of total IRD notional outstanding compared to 29.8% a year ago.

Sterling-denominated IRD notional outstanding was \$40.7 trillion at end-June 2023, up by 16.8% compared to mid-year 2022. It accounted for 7.1% of total notional outstanding versus 6.9% at mid-year 2022.

Chart 7: Global IRD Notional Outstanding by Currencies (US\$ trillions)

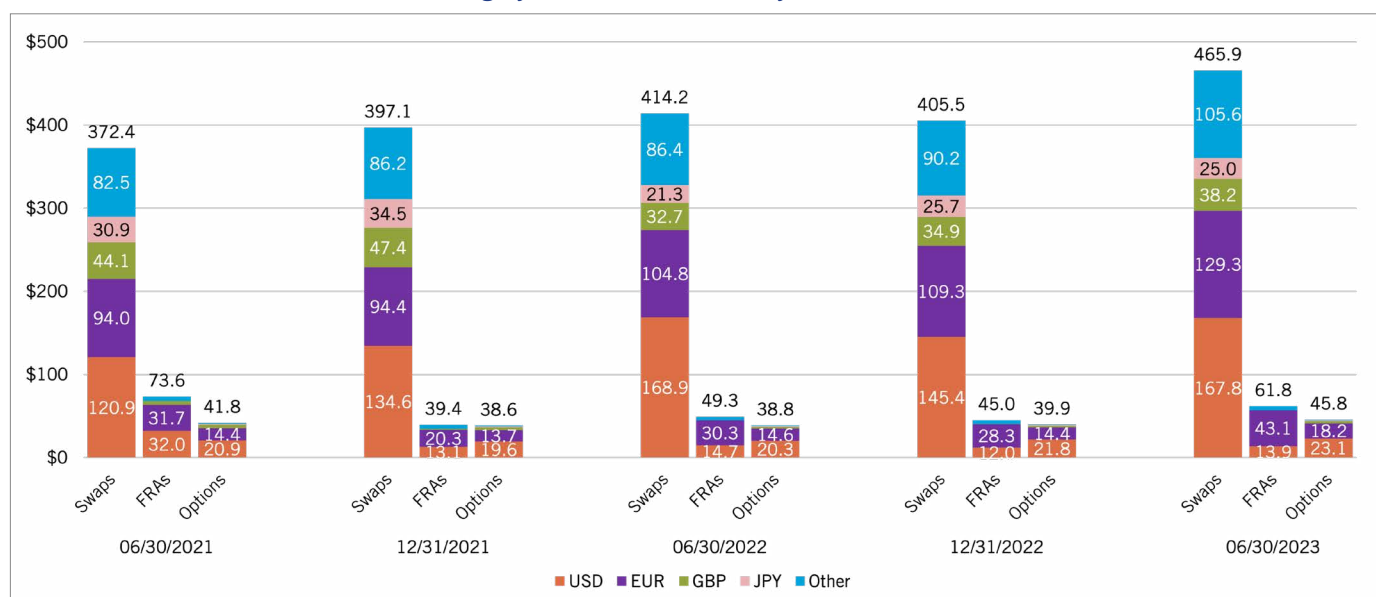


Source: BIS OTC Derivatives Statistics

Euro-denominated IRS notional outstanding grew by 23.3% to \$129.3 trillion at mid-year 2023 versus end-June 2022. Sterling-denominated IRS notional outstanding rose by 16.7% to \$38.2 trillion and US-dollar-denominated IRS notional outstanding fell by 0.6% to \$167.8 trillion from \$168.9 trillion at mid-year 2022 (see Chart 8).

Euro-denominated FRA notional outstanding increased by 42.3% to \$43.1 trillion at mid-year 2023 from \$30.3 trillion a year earlier, while US dollar-denominated FRA notional outstanding declined by 5.6% over the same period.

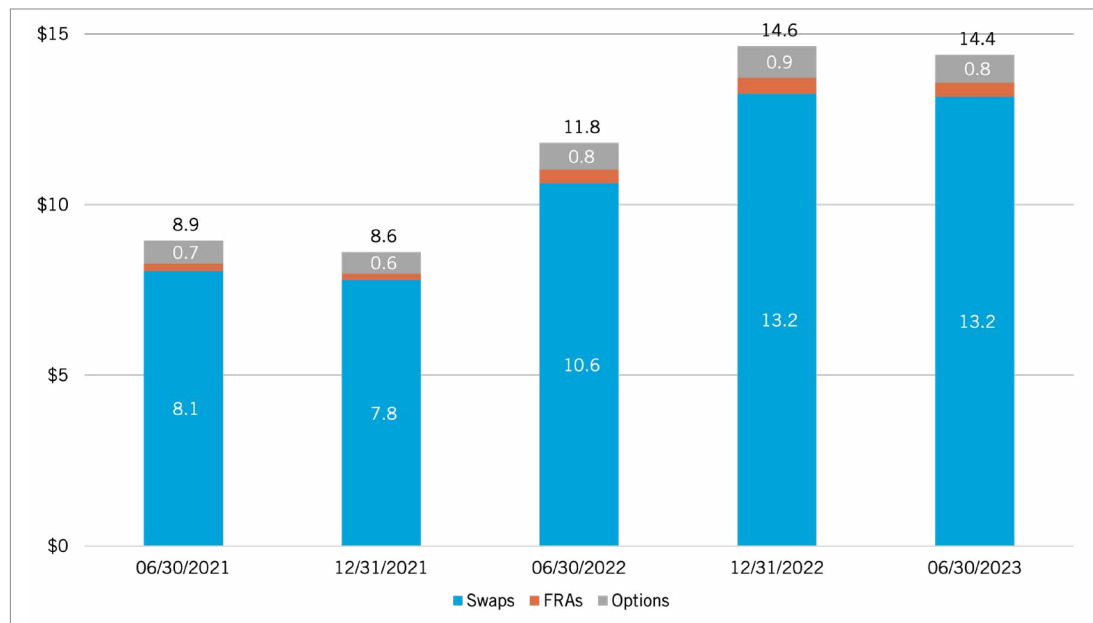
Chart 8: Global IRD Notional Outstanding by Product and Currency (US\$ trillions)



Source: BIS OTC Derivatives Statistics

IRD gross market value rose by 21.9% to \$14.4 trillion at the middle of 2023 compared to \$11.8 trillion at mid-year 2022. IRS gross market value increased to \$13.2 trillion, up by 23.9% versus \$10.6 trillion at mid-year 2022. FRA and options gross market value grew by 0.1% and 5.5%, respectively (see Chart 9).

Chart 9: Gross Market Value of Global IRD by Product (US\$ trillions)



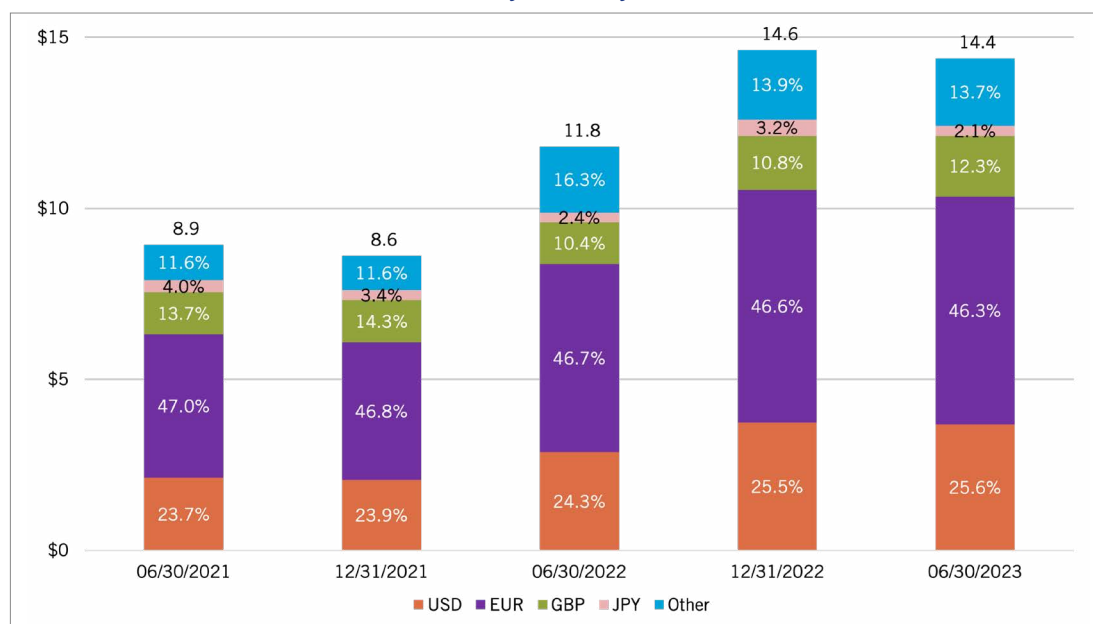
Source: BIS OTC Derivatives Statistics

US-dollar-denominated IRD gross market value increased by 28.4% to \$3.7 trillion as of end-June 2023 versus \$2.9 trillion a year earlier. It accounted for 25.6% of total IRD gross market value compared to 24.3% at mid-year 2022 (see Chart 10).

Euro-denominated IRD gross market value climbed by 21.0% to \$6.7 trillion from \$5.5 trillion, equating to 46.3% of total IRD gross market value at mid-year 2023 compared to 46.7% at end-June 2022.

Sterling-denominated IRD gross market value rose by 45.1% to \$1.8 trillion, accounting for 12.3% of total IRD gross market value versus 10.4% at mid-year 2022.

Chart 10: Global IRD Gross Market Value by Currency (US\$ trillions)

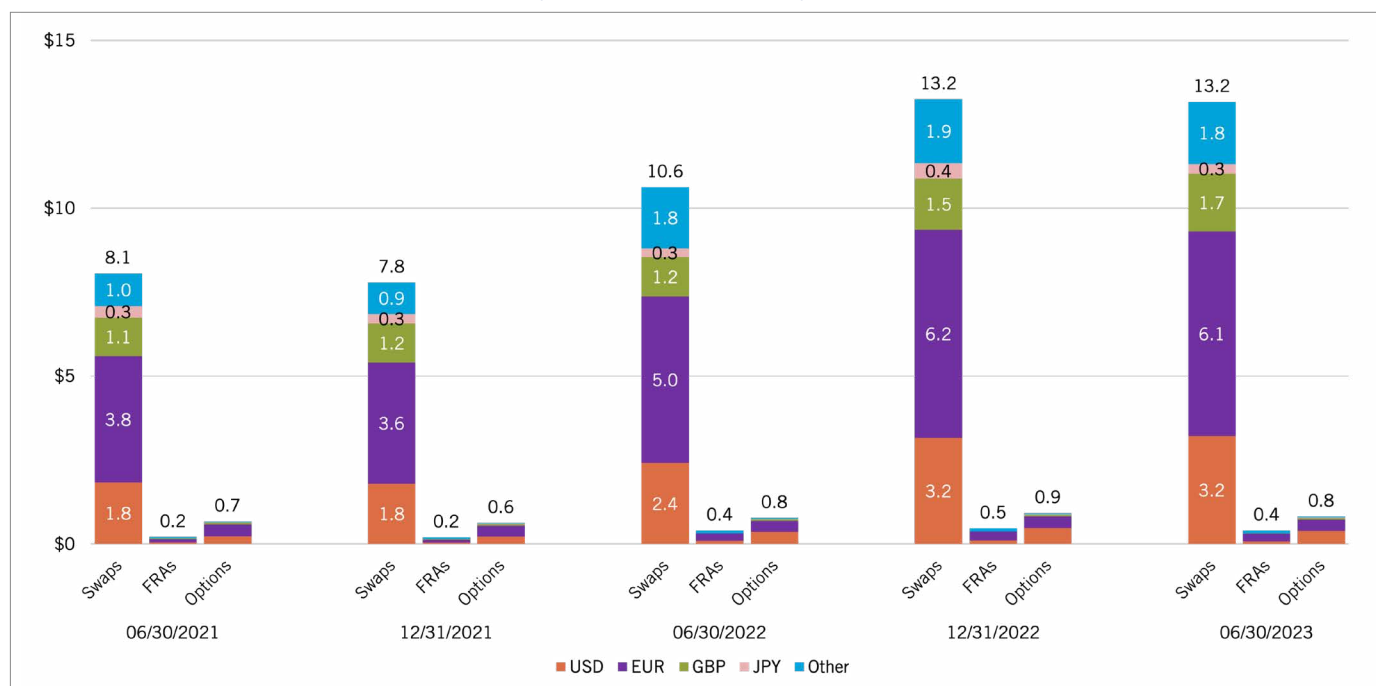


Source: BIS OTC Derivatives Statistics

The gross market value of US-dollar-denominated IRS increased by 33.3% to \$3.2 trillion at mid-year 2023 from \$2.4 trillion a year earlier. Euro-denominated IRS gross market value grew by 22.9% to \$6.1 trillion and sterling-denominated gross market value rose by 46.2% to \$1.7 trillion (see Chart 11).

US-dollar-denominated FRA gross market value fell by 22.8% to \$74.7 billion versus \$96.8 trillion at mid-year 2022, while the gross market value of euro-denominated FRAs increased by 8.0% to \$238.1 billion from \$220.4 billion at end-June 2022.

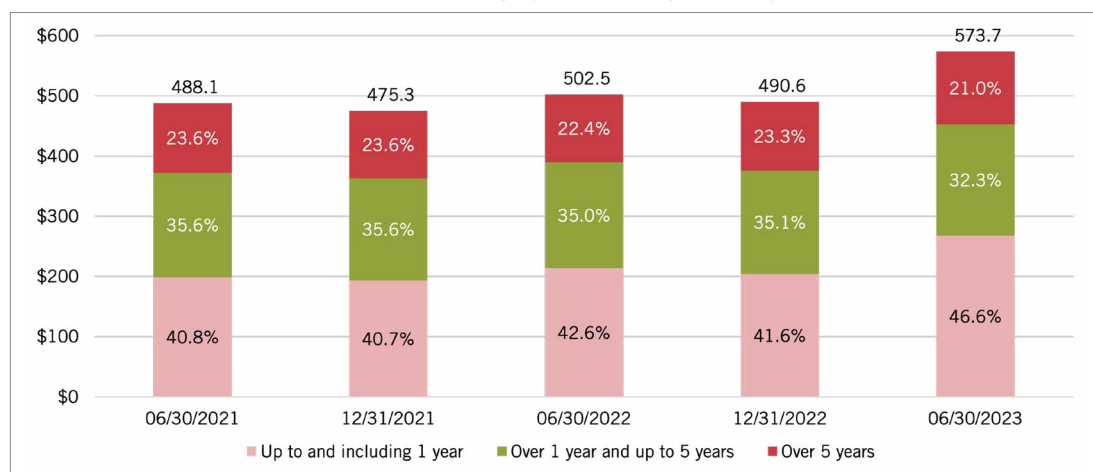
Chart 11: Gross Market Value of Global IRD by Product and Currency (US\$ trillions)



Source: BIS OTC Derivatives Statistics

IRD notional outstanding with a remaining maturity up to and including one year totaled \$267.6 trillion and accounted for 46.6% of global IRD notional outstanding at mid-year 2023 (see Chart 12). IRD notional outstanding with a remaining maturity over one year and up to five years was \$185.3 trillion (32.3% of total notional outstanding) and contracts with a remaining maturity over five years totaled \$120.6 trillion (21.0% of total notional outstanding).

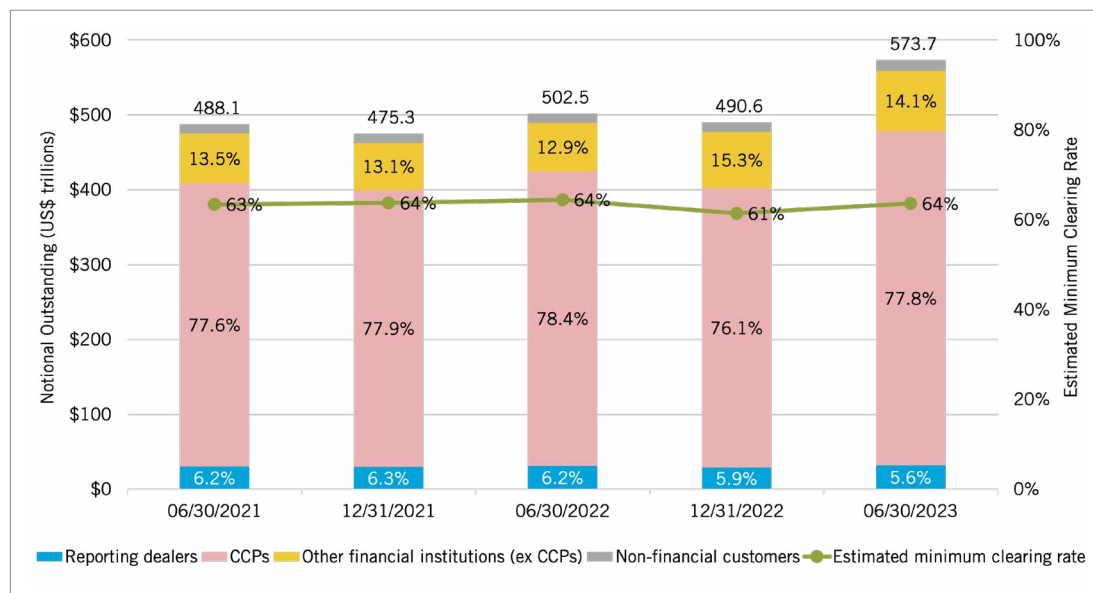
Chart 12: Global IRD Notional Outstanding by Remaining Maturity (US\$ trillions)



Source: BIS OTC Derivatives Statistics

The share of IRD notional outstanding cleared by CCPs was 77.8% in the first half of 2023, totaling \$446.2 trillion. The estimated minimum clearing rate for IRD was 63.6% at mid-year 2023⁶ (see Chart 13).

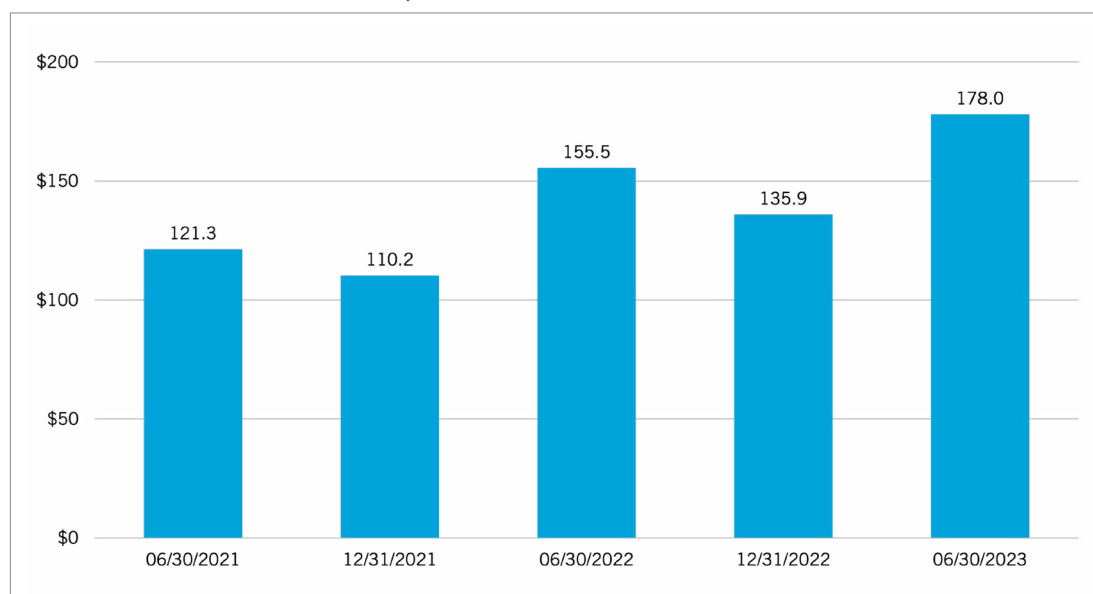
Chart 13: Global IRD Notional Outstanding by Counterparties (US\$ trillions)



Source: BIS OTC Derivatives Statistics

ISDA SwapsInfo data shows that trading in IRD products reported in the US increased by 14.5% to \$178.0 trillion in the first half of 2023 compared to \$155.5 trillion in the first half of 2022^{6,7} (see Chart 14).

Chart 14: IRD Traded Notional Reported in the US (US\$ trillions)



Source: DTCC SDR

⁶ The estimated minimum clearing rate adjusts for potential double counting of interdealer trades novated to central counterparties (CCPs). It is calculated as $(CCP / 2) / (1 - (CCP / 2))$, where 'CCP' represents the share of notional amounts outstanding that dealers report against CCPs. The true clearing rate is likely to be higher as many trades will be initiated with CCPs

⁷ Based on the data from the Depository Trust and Clearing Corporation (DTCC) swap data repository (SDR). This data covers only transactions required to be disclosed under US Commodity Futures Trading Commission (CFTC) regulations. See ISDA SwapsInfo website www.swapsinfo.org/

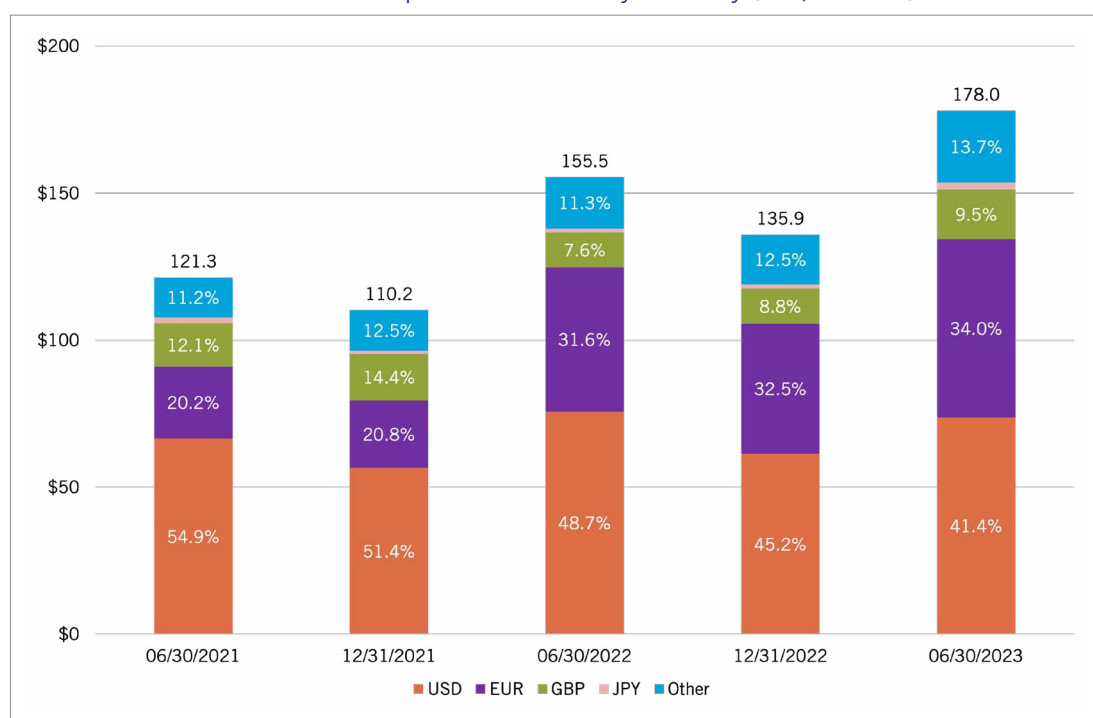
⁸ Interest rate derivatives data has been amended following the publication of SwapsInfo First Half of 2023 and the Second Quarter of 2023 Review

US-dollar-denominated IRD traded notional fell by 2.6% to \$73.8 trillion, accounting for 41.4% of total IRD traded notional in the first half of 2023 versus 48.7% in the first half of 2022 (see Chart 15).

Euro-denominated IRD traded notional was \$60.6 trillion in the first half of 2023, up by 23.4% compared to the first six months of 2022. It represented 34.0% of total IRD traded notional compared to 31.6% in the first half of 2022.

Sterling-denominated IRD traded notional rose by 42.6% to \$16.9 trillion, representing 9.5% of total IRD traded notional in the first half of 2023 compared to 7.6% in the first half of 2022.

Chart 15: IRD Traded Notional Reported in the US by Currency (US\$ trillions)



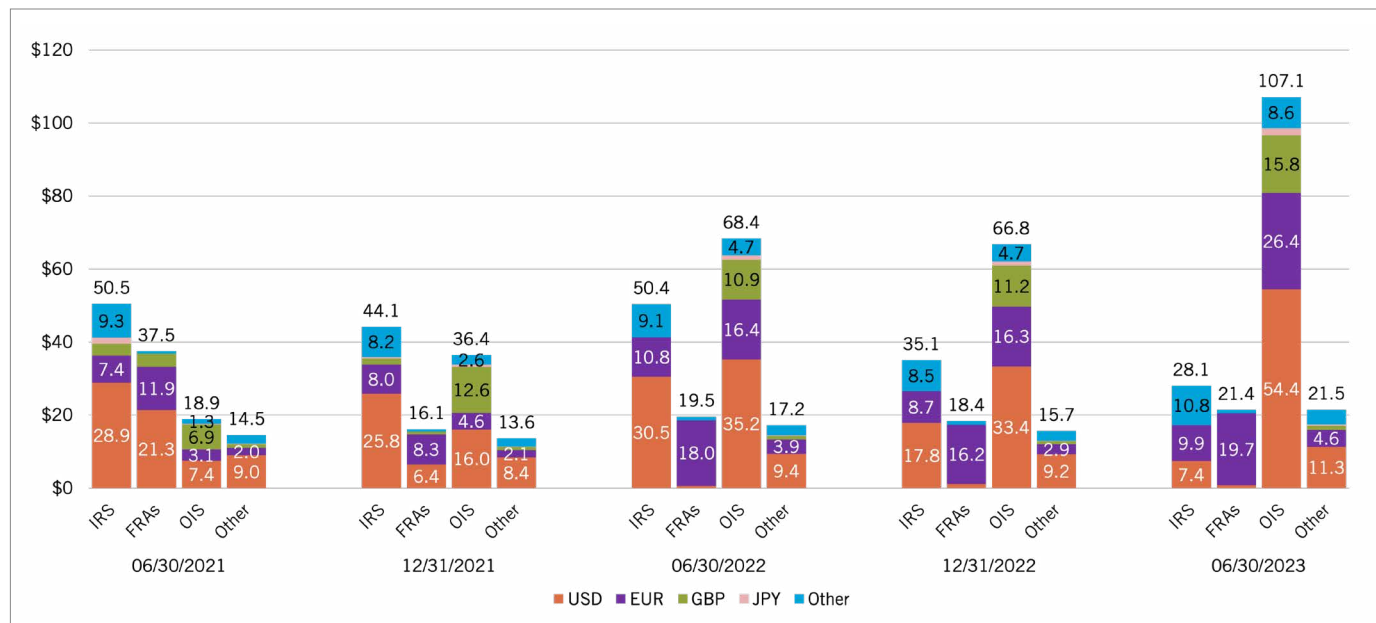
Source: DTCC SDR

US-dollar-denominated overnight index swaps (OIS) traded notional grew by 54.5% to \$54.4 trillion in the first half of 2023 from \$35.2 trillion in the first half of 2022. Euro-denominated OIS traded notional rose by 60.9% to \$26.4 trillion from \$16.4 trillion and sterling-denominated OIS traded notional increased by 44.4% to \$15.8 trillion from \$10.9 trillion over the same period (see Chart 16).

US-dollar-denominated fixed-for-floating IRS traded notional fell by 75.8% to \$7.4 trillion in the first half of 2023 versus \$30.5 trillion in the first half of 2022. Euro-denominated fixed-for-floating IRS traded notional dropped by 8.8% to \$9.9 trillion from \$10.8 trillion and sterling-denominated IRS traded notional declined by 40.7% to \$4.7 billion from \$8.0 billion.

Euro-denominated FRA traded notional grew by 9.8% to \$19.7 trillion in the first half of 2023 from \$18.0 trillion in the first half of 2022. There were no sterling-denominated FRAs in the first half of 2023, while US-dollar-denominated FRA traded notional totaled \$732.0 billion.

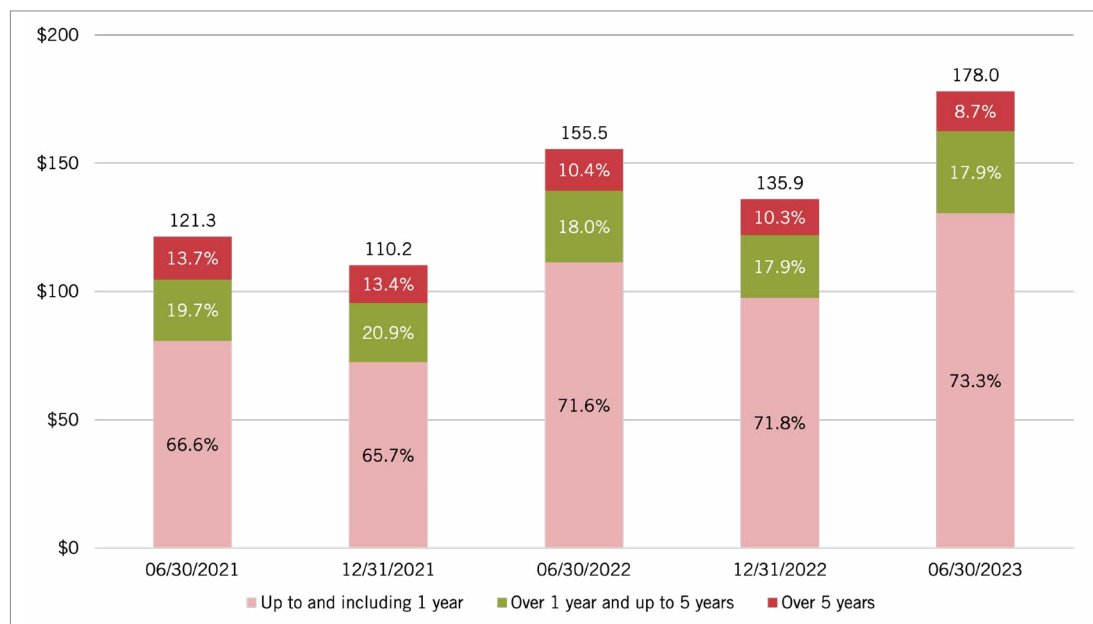
Chart 16: IRD Traded Notional Reported in the US by Product and Currency (US\$ trillions)



Source: DTCC SDR

In the first half of 2023, 73.3% of total IRD trading was in contracts with a tenor up to and including one year compared to 71.6% in the first half of 2022⁹. Contracts with a tenor over one year and up to five years accounted for 17.9% of total IRD traded notional, while contracts with a tenor over five years totaled 8.7% (see Chart 17).

Chart 17: IRD Traded Notional Reported in the US by Tenor (US\$ trillions)

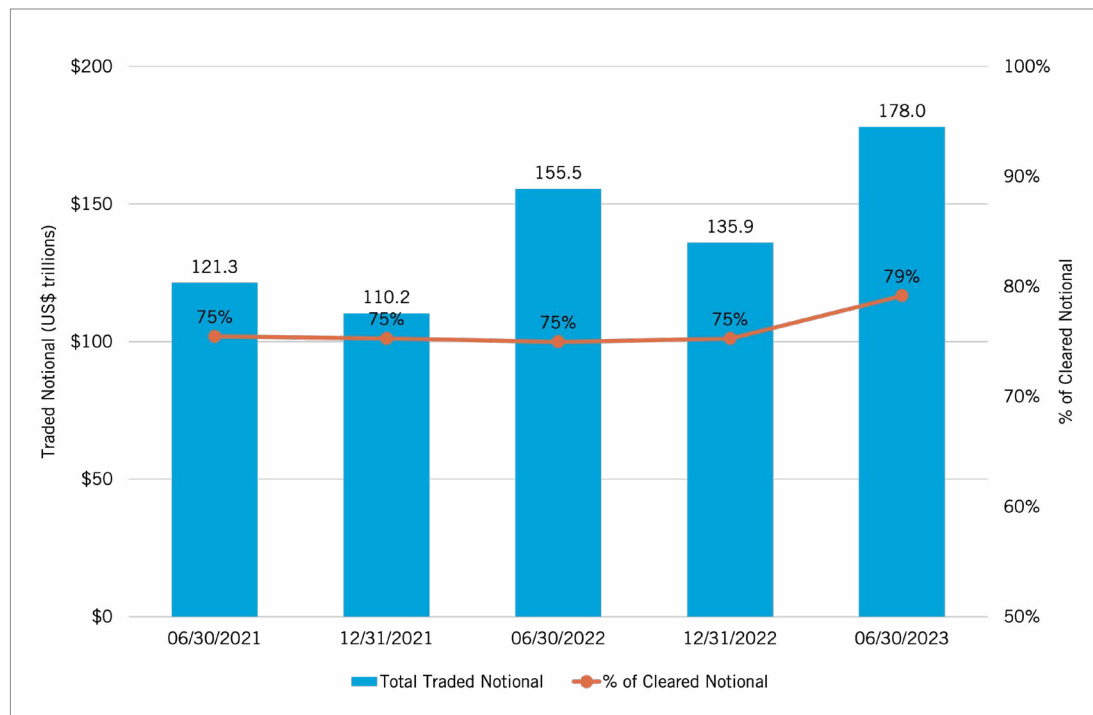


Source: DTCC SDR

Cleared IRD transactions comprised 79.2% of total IRD traded notional in the first half of 2023 (see Chart 18).

⁹ Tenor is calculated as the difference between the effective date and the end date

Chart 18: Percentage of IRD Cleared Notional Reported in the US



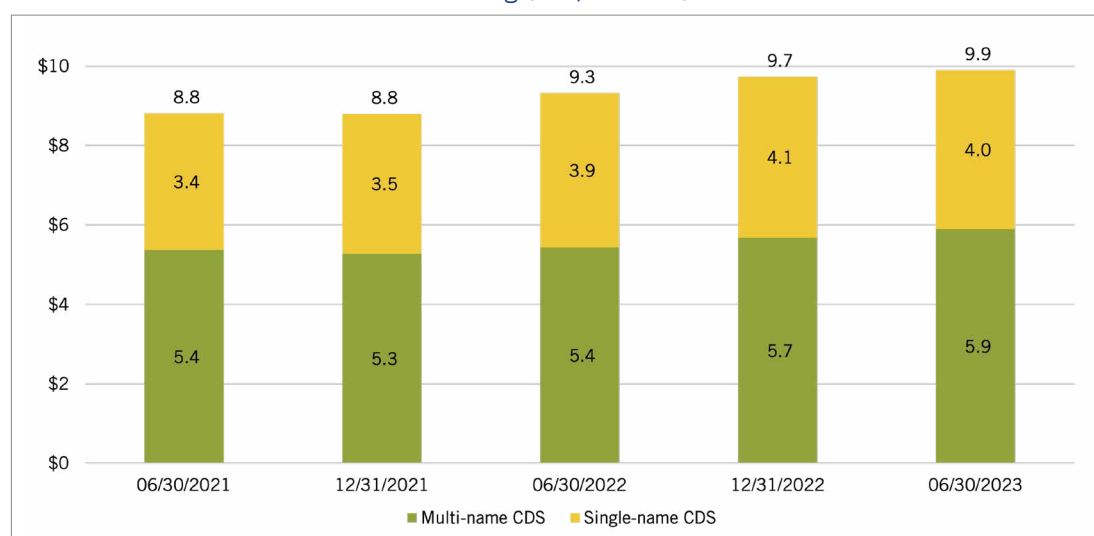
Source: DTCC SDR

CREDIT DERIVATIVES

According to BIS data, CDS notional outstanding (including single-name and index CDS) rose by 6.3% to \$9.9 trillion at the middle of 2023 versus a year earlier and increased by 1.8% compared to year-end 2022 (see Chart 19).

Single-name CDS notional outstanding rose by 3.2% to \$4.0 trillion at mid-year 2023 compared to \$3.9 trillion at end-June 2022, while multiple-name CDS notional outstanding increased by 8.5% to \$5.9 trillion.

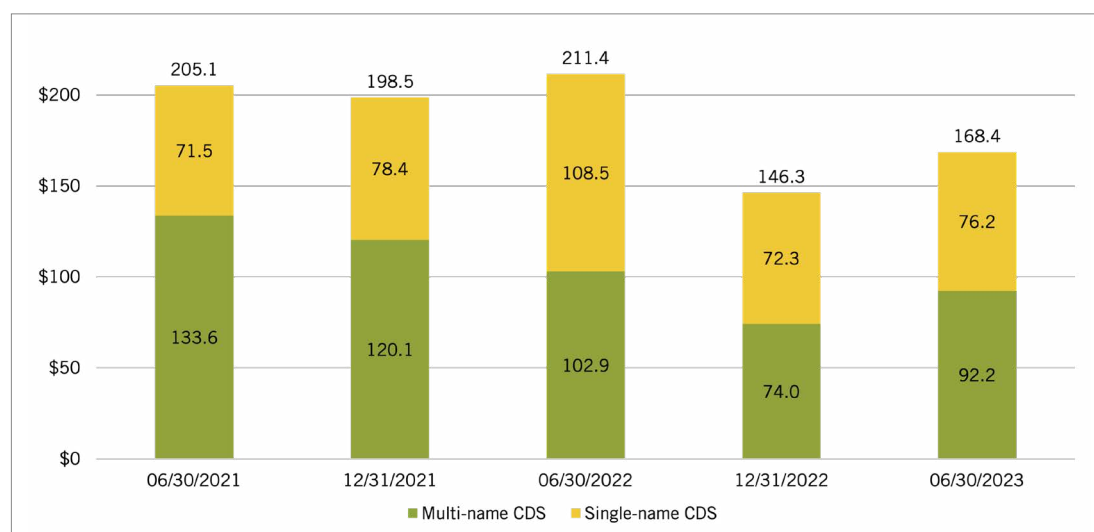
Chart 19: Global CDS Notional Outstanding (US\$ trillions)



Source: BIS OTC Derivatives Statistics

The gross market value of CDS fell by 20.3% to \$168.4 billion at mid-year 2023 from \$211.4 billion a year earlier (see Chart 20). Single-name CDS gross market value declined by 29.7% to \$76.2 billion from \$108.5 billion and multiple-name CDS gross market value dropped by 10.4% to \$92.2 billion from \$102.9 billion.

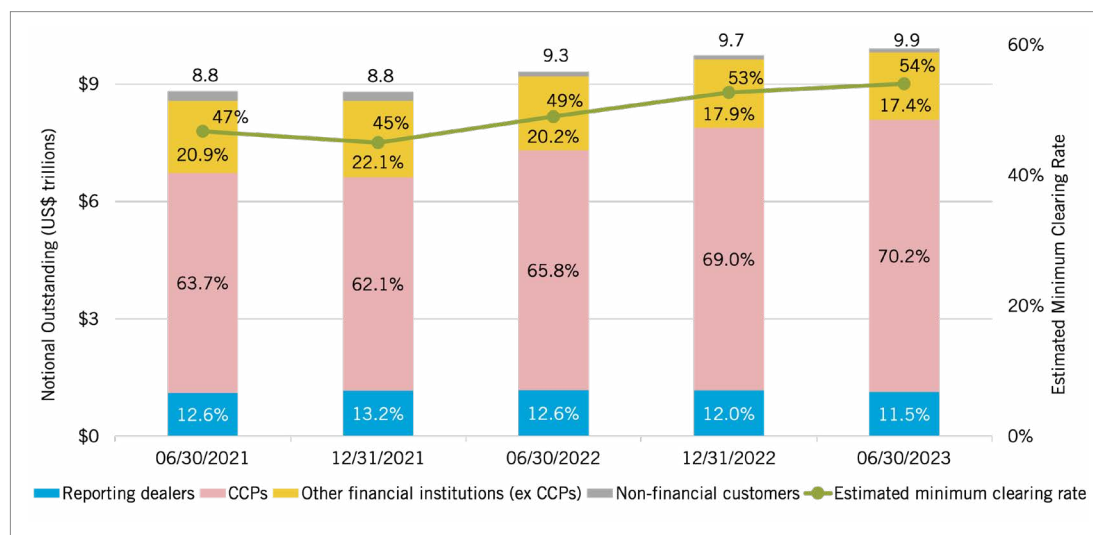
Chart 20: Global CDS Gross Market Value (US\$ billions)



Source: BIS OTC Derivatives Statistics

Cleared CDS notional outstanding was \$6.9 trillion in the first half of 2023, representing 70.2% of total CDS notional outstanding. The estimated minimum clearing rate for CDS contracts increased to 54.1% in the first half of 2023 compared to 49.0% in the first half of 2022¹⁰ (Chart 21).

Chart 21: Global CDS Notional Outstanding by Counterparties (US\$ trillions)

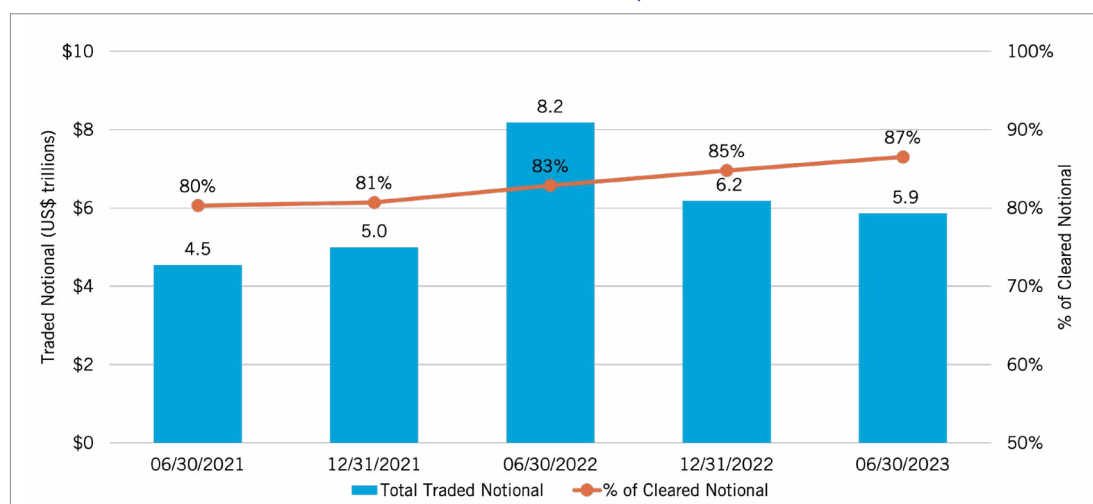


Source: BIS OTC Derivatives Statistics

Index CDS traded notional reported in the US fell by 28.4% to \$5.9 trillion in the first half of 2023 compared to \$8.2 trillion in the first six months of 2022¹¹ (see Chart 22).

Cleared index credit derivatives transactions comprised 86.5% of total credit derivatives traded notional in the first half of 2023 compared to 82.9% in the first half of 2022.

Chart 22: Index Credit Derivatives Traded Notional Reported in the US (US\$ trillions)



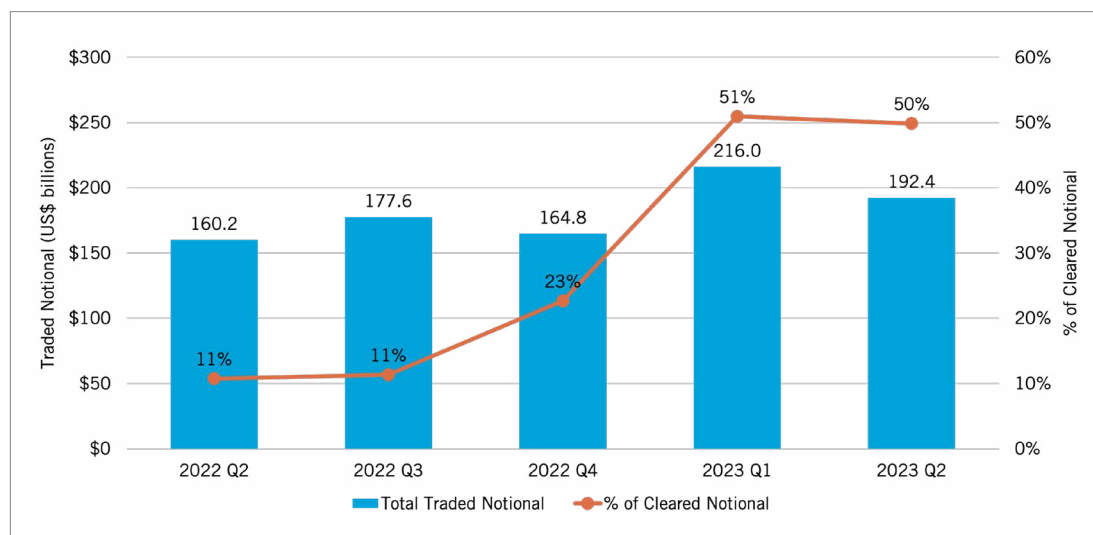
Source: DTCC SDR

¹⁰ The estimated minimum clearing rate adjusts for potential double counting of interdealer trades novated to CCPs. It is calculated as $(CCP / 2) / (1 - (CCP / 2))$, where CCP represents the share of notional amounts outstanding that dealers report against CCPs. The true clearing rate is likely to be higher as many trades will be initiated with CCPs

¹¹ Index credit derivatives mostly comprise credit default swap (CDS) indices, but also include CDS index tranches, credit swaptions, exotic products, total return swaps and an insignificant amount of single-name CDS. This data only includes transactions reported to DTCC SDR under CFTC regulations. Credit derivatives reported to the DTCC security-based swaps data repository (SBSDR) under US Securities and Exchange Commission (SEC) regulations are not included in this data

Security-based credit derivatives traded notional reported in the US totaled \$408.4 billion in the first half of 2023¹². Cleared security-based credit derivatives transactions comprised 50.4% of total credit derivatives traded notional in the first half of 2023¹³ (see Chart 23).

Chart 23: Security-based Credit Derivatives Traded Notional Reported in the US



Source: DTCC and ICE Trade Vault SBSDRs

¹² Security-based credit derivatives mostly comprise single-name CDS, but also include total return swaps, index, exotic, index tranche, swaptions and other single-name swaps (eg, asset-backed, loan and municipal security-based swaps). This data includes security-based credit derivatives transactions reported to the DTCC SBSDR and ICE Trade Vault from February 2022 under SEC regulations. It does not include any transactions that are required to be reported to the DTCC SDR under CFTC regulations

¹³ Cleared includes transactions that have been cleared or are planned to be submitted to clearing. The percentage of cleared transactions increased significantly in the first quarter of 2023 due to the change in reporting logic. Prior to December 2022, only 'Yes' or 'No' was expected to be reported for the cleared status. Following the change, 'Intent to clear' is also expected to be reported for transactions that are planned to be submitted to clearing



ISDA has published other recent research papers:

- ***ISDA-Clarus RFR Adoption Indicator: October 2023***

www.isda.org/a/FhqgE/ISDA-Clarus-RFR-Adoption-Indicator-October-2023.pdf

- ***SwapsInfo Third Quarter of 2023 and Year-to-September 30, 2023 Review***

www.isda.org/a/VSqgE/SwapsInfo-Third-Quarter-of-2023-and-Year-to-September-30-2023-Review.pdf

- ***Overview of the Canadian Derivatives Market***

www.isda.org/a/J97gE/Overview-of-the-Canadian-Derivatives-Market.pdf

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